UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,184	01/24/2005	Shinji Morimoto	2946-186	3659

6449 7590 05/27/2009

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER	
GEBREMICHAEL, BRUK A	

ART UNIT	PAPER NUMBER
3715	

NOTIFICATION DATE	DELIVERY MODE
05/27/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/522,184	MORIMOTO ET AL.	
	Examiner	Art Unit	
	BRUK A. GEBREMICHAEL	3715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/27/2009 has been entered.

Currently, claim 1 has been amended. Claims 2-5 have been canceled. Thus, claim 1 is pending in this application.

Response to Amendment

3. Applicant has canceled claims 2-3, and this is sufficient to overcome the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action. Accordingly, the Examiner withdraws the rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

- Claims is rejected under 35 U.S.C. 103(a) as being unpatentable over Chaiken 5,333,111 in view of Williams 6,192,777.

- Claim elements "judgment means" and "subsidiary means" as recited in claim 1 are means (or step) plus function limitations that invoke 35 U.S.C. 112, sixth paragraph, since the claimed limitations are described in terms of their function, not their mechanical structure. Accordingly, these claim elements appear to correspond to the controller described in the specification (e.g. FIG 2, labels 16 and 26 and Page 6, lines 29-35).

Regarding claim 1, Chaiken teaches the following claimed limitations, a teaching device for an automatic cutting machine having a cutting table (FIG 1, label 12), a cutting head (FIG 1, label 40), and a cutting area on the table for placing a sheet within the cutting area (FIG 1, label 20), the cutting head being capable of cutting the sheet only within the cutting area (col.4, lines 54-65), designation of at least two teaching points on the sheet (col.6, lines 7-14) computing a position and a slope of the sheet to the cutting area, correcting marking data including cutting pattern of parts to be cut out from the sheet in accordance with the position and the slope of the sheet (see col.7, lines 27-34 and lines 61-67), and cutting the sheet with corrected marking data (col.8, lines 8-17).

Chaiken further implicitly teaches judgment means for judging whether the cutting pattern is contained within the cutting area, not contained within the cutting area along the longitudinal direction, after designation of the teaching points and the correction of the marking data, or not contained within the cutting area along a left-right direction perpendicular to the longitudinal direction (see col.7, lines 61-68 and col.8, lines 1-17), and subsidiary means for evaluating whether movement of the marking

data along the Longitudinal direction in such a way that all the parts are moved or movement of the sheet along the longitudinal direction will make the cutting pattern within the cutting area, if the cutting pattern is not contained within the cutting area along the longitudinal direction (col.9, lines 16-26 and FIG 9), for moving the marking data along the longitudinal direction in such a way that all the parts are moved or the sheet along the longitudinal direction, if one of the movements is evaluated as making the cutting pattern within the cutting area (FIG 1, see e.g. movement along elongated racks 28), for evaluating whether movement of the marking data along the left-right direction in such a way that all the parts are moved will make the cutting pattern within cutting area; and for moving the marking data along the left-right direction in such a way that all the parts are moved, if movement along the left-right direction is evaluated as making the cutting pattern within the cutting area (FIG 1, see movement along tube 34).

Chaiken does not explicitly teach, a conveyor conveying the sheet along a longitudinal direction of the cutting area.

However, Williams teaches a conveyor conveying the sheet along a longitudinal direction of the cutting area (FIG 3, label 118).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the invention of Chaiken in view of Williams by incorporating a motorized conveyor in order to efficiently move one or more work-pieces towards the cutting tool thereby saving the amount of time and resources required to manually position and move each work-piece on the cutting table especially during mass production.

Note that Williams also teaches the judgment means (col.3, lines 33-46) and the subsidiary means (col.4, lines 10-28) having the above functional limitations.

Response to Arguments.

6. Applicant's arguments filled on 03/27/2009 have been fully considered. In the remarks,

(1) Chaiken fails to disclose any equivalent of the judging means and subsidiary means as in claim 1 which operates together to make the cutting pattern within the cutting area. In particular, Chaiken is completely silent on any means for evaluating whether movement of the marking data along either the longitudinal direction or x-y direction will make the cutting pattern within the cutting area; and any means for moving the marking data or the sheet itself along either the longitudinal direction or in x-y direction. Rather, Chaiken defines "matching" as the alignment of fabric design repeats in the fabric from one segment of a garment to a corresponding segment . . .

- In response to argument (1), Examiner respectfully disagrees. Chaiken does suggest a judging means and a subsidiary means that operate together to make cutting pattern within the cutting area. Based on the broadest reasonable interpretation of the claimed features, for example the *judgment means* is a video component that has a camera (FIG 1, label 60) which captures images of the fabric to be cut and transmit the information to the computer/controller. In the same way, the *subsidiary means* is the computer/controller that receives the signals from the camera and adjusts the cutting tool based on the received information. That means, the controller/computer performs the functions of both *judgment means* and s*ubsidiary means* since it makes the

adjustment after evaluating (judging) the information received from the camera. According to Chaiken's teaching, this video component operates together with the controller when cutting the fabric. For example, the line "Further, **the cutting system** has a **video sub-system** 60 **for generating image signals** of **a portion of the fabric sheet of interest**. The **video sub-system** is configured with **the cutting head** to **move as an assembly**. . . Light reflected from the table is provided via the lens to a charge coupled device (CCD) array **color camera** or vidicon 68 which generates electrical signal equivalents of the **image of the selected fabric portion**." (col.6, lines 65-68 and col.7, lines 1-11) suggests the judgment means for determining and transmitting information indicating whether the fabric is within the specified region.

Similarly the line, "The **controller then provides command signals** to move at block 100 **the cutting head** to a **first, match-to-fabric point** 102 (M0). The operator then manually slews the cutting head to ensure that the theoretical match-to-fabric point is aligned with the fabric design. This operation is the only one in the preferred embodiment which requires manual input. Thereafter, the present system accomplishes the programmed functions without the need for human intervention when configured as an automatic design matching." (col.8, lines 8-17) suggests the fact that controller (in this case as a subsidiary means) sends command to the cutting tool to cut the fabric after evaluating the information received from the video sub-system (i.e. judgment means).

Therefore, the Examiner concludes that Applicant's currently presented claimed features have already been taught or suggested by the prior art.

(2) Williams fails to cure the deficiencies of Chaiken. Williams defines "matching" very similarly to that of Chaiken . . . The marker in Williams is adjusted simply because the workpiece may have imperfections and may be irregularly or improperly aligned on the cutting table, as is shown in Fig.2B. Like Chaiken, Williams is silent on positioning the cutting patterns into the cutting area so that the cutting patterns are contained into the cutting area. The object of the presently claimed invention is to position the cutting patterns within the cutting area. Accordingly, it is not necessary to alter the relative positions of the cutting patterns with each other. Therefore, the marking data may be moved as a whole. This feature is not suggested by Chaiken or Williams.

- In response to argument (2) the Examiner respectfully disagrees. Williams also teaches or suggests adjusting the marker in order to align the location on the work piece so that the cutting tool cuts the work piece at the desired location. Even if Applicant indicated that “the marker in Williams is adjusted simply because the workpiece may have imperfections and may be irregularly or improperly aligned on the cutting table”, such improper alignment by itself suggests that the workpiece is not in the desired cutting area (due to the misalignment). Therefore, according to Williams teaching, the marker is adjusted in order to position the workpiece in the desired cutting area. For example the line “The **marker is then adjusted** such that the selected point thereon coincides with a **desired location** on the **workpiece**. This process is repeated as necessary to compensate for all observed irregularities. **When adjustment of the marker is complete**, the adjusted marker is utilized to **direct the cutting device** to cut

the **pieces of material from the workpiece**." (col.4, lines 21-28) suggests the fact that the cutting tool will cut the workpiece when it is positioned in the desired cutting area.

Further more, both Chaiken and Williams have suggested for example longitudinal and left-right motion of the marker data to determine or evaluate whether the workpiece is in the desired cutting region. For example, as indicated in FIG 1 of Chaiken's device, the cutting assembly is capable of moving longitudinally (along the elongated racks 28) and left-right direction (along the guide tube 34) relative to the position of the workpiece in order to locate the workpiece. This clearly suggests Applicant's currently claimed feature with regard to longitudinal and left-right movement of the marking data. Therefore, one of ordinary skill in the art would readily recognize from the teaching of the reference that Chaiken's device is capable of moving the marker data in any desired direction (longitudinal and left-right direction).

Note also that for example regarding the claimed feature "*judgment means for judging whether the cutting pattern is contained within the cutting area, not contained within the cutting area along the longitudinal direction, after designation of the teaching points and the correction of the marking data,* ***or*** *not contained within the cutting area along a left-right direction perpendicular to the longitudinal direction*"; this limitation have similar meaning as "*judgment means for judging whether the cutting pattern is contained within the cutting area,*" since judging whether a particular pattern is located within a given cutting area implies checking whether the pattern is *contained* (or *not contained*) in that cutting area along the X-Y plane (i.e. both longitudinal and left-right direction are understood when judging an "***area***"); and therefore reciting this already

known meaning does not distinguish the current invention from the prior art, since the video sub-system of Chaiken's device is utilized to locate the portion of the fabric to be cut by scanning along the X-Y plane. That means, the above claimed feature is still within the scope of the prior art.

This claimed feature is further suggested by Williams' invention. For example FIG 1 shows a cutting assembly (FIG 1, label 28) that is capable of moving longitudinally (along the elongated racks 26) and left-right direction (along the tube of main carriage 24) with respect to the workpiece. Williams further teaches a conveyor that moves the workpiece to the cutting tool when the workpiece is initially placed on the cutting table (e.g. FIG 3, label 111).

Therefore, the Examiner concludes that Applicant's claimed features have already been taught or suggested by the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruk A. Gebremichael whose telephone number is (571) 270-3079. The examiner can normally be reached on Monday to Friday (7:30AM-5:00PM) ALT. Friday OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bruk A Gebremichael/
Examiner, Art Unit 3715

/Cameron Saadat/

Primary Examiner, Art Unit 3715